International Journal of Medicine
and Pharmaceutical Science (IJMPS)
ISSN (P): 2250-0049; ISSN (E): 2321-0095
Vol. 11, Issue 2, Dec 2021, 47–54

TRANS STELLAR
•Journal Publications •Research Consultancy

Original Article

STHAULYA NIDANA- A CRITICAL ANALYSIS IN MANIFESTATION OF STHAULYA/OBESITY

DR. RAJESH A. UDAPUDI

Dean, JSS Ayurveda Medical College, Mysuru, India

ABSTRACT

Person's life who is suffering from Sthaulya Roga becomes miserably pathetic because of the Doṣha like hampered physical activity, hampered sexual life, extreme lassitude, proneness to dangerous diseases, above all decreased life span. It is widely acknowledged that Obesity has emerged as an epidemic in developed countries. It continues to be an issue of great concern. In addition, we now face the emergence of Obesity as a worldwide phenomenon, affecting wealthy and middle income people. The objective is to find out the efficacy of Shodhana, Shamana and Pathya in the management of Sthaulya.

Hypothesis – The aetiological factors and Pathya therapies do have a significant role in the management of Sthaulya.

KEYWORDS: Sthaulya, Obesity, Junk food, Sedentary Life, No Exercise, Lekhana Basti, Erandmuladi Basti, Navaka Guggul, Diet & Pathya

Received: Jun 22, 2021; **Accepted**: Jul 12, 2021; **Published**: Jul 31, 2021; **Paper Id.**: IJMPSDEC20217

INTRODUCTION

Aetiological factors provide vital information regarding Diagnosis as well as involved pathological entities of a disease. More importantly, most of the time guide the physician towards therapeutic and aid in advising the Pathyapathya[1].

Classics of Ayurveda referred to the causative factors of Sthaulya Roga at various junctures. For this, one has to compile the relevant information from various like Santarpanottha Vikara Hetu[2] (C.S.Su.23/3-7), Medo Roga Hetu[3] (M.N.34/1-2), Ati Sthaulya Hetu[4] (S.S.Su.15/32), Meda Mamsavaha Srotodusti Hetu[5] (C.S.Vi.5), Prameha Hetu[6] (C.S.Ni.4/5) and Kapha Vruddikara Hetu[7] (C.S. Chi.6/4) etc.

Then Sthaulya Nidana can be derived and categorized in the following manner.

Table No 1: Various Sthaulya Nidana

Aharaja	Guṇa Pradhana	Guru, Sheeta, Picchila, Snigdha.
	Rasa Pradhana	Madhura.
	Dravya Pradhana	Navanna, Dadhi, Gorasa, Atimeda, Gaudika, Varuṇi, Anupavarija Mamsa.
	Ahara Krama	Adhyasana, Atisampurṇa, Atimatra ahara.
Viharaja	Avyayama, Shayyasana Sukha, Divasvapna, Cheṣṭa Dveṣha.	Avyayama, Shayyasana Sukha, Divasvapna, CheṣṭaDveṣha.
Manasika	Achinta, Arati, Harshanityatva.	Achinta, Arati, Harshanityatva.
Anya	Beeja svabhava, Vaidyakruta.	Beeja svabhava, Vaidyakruta.

Ati Guru, Snigdha and Sheeta Pradhana Ahara

Guru Pradhana Ahara tends to make the body related in turn all these predispose the aggravation of Kapha, ultimately Meda Dhatu Upachaya only, leading to Sthaulya Roga. Some of such Ahara Dravya can be enlisted. On keen observation, these foodstuffs can be compared to those, which are considered as high caloric substances. A very small excess of calories if habitual can lead eventually to a large accumulation of fat.

Moreover, rich foods like high fat-containing foods are high caloric than foods containing Carbohydrates and Protein. Food with high caloric content and little additional nutritive value include – sugar, jelly, syrup, potato chips, crackers, fried items, gravy, cream, sauces, soft drinks, ice creams, candy, chewing gum, cakes, pastries etc.

Alcoholic beverages also have a high caloric content (168 kcal for oz. beer, 172 kcal for 2 oz. of whisky). Many individuals consume 10–20 % of their calories as alcoholic beverages. Eliminating these without dietary changes would lead to significant weight loss in these persons. Another disadvantage of fat is that it is comparatively indigestible. Too much fat in a single meal can produce acute indigestion. Saturated fats are usually more indigestible.

Madhura Pradhana Ahara

Madhura Rasa Dravya is 'Pṛthvi' and 'Aap' Mahabhuta dominant when consumed in excess will tend to aggravate similar Dhatu in the body like Kapha Dosha and ultimately Meda Dhatu.

Biochemically Madhura Pradhana Dravya falls in the category of Carbohydrates majorly and to a lesser extent some fatty substances. Carbohydrates when metabolized in the body have a capacity to get converted into fat for the purpose of deposition and storage, leading to overweight.

Navanna

It is Guru in nature, known to produce Kapha, in turn, may precipitate Sthaulya by Ati Santarpaṇa of Meda.

Anoopavarija Mamsa, Meda Sevana

Similar qualities tend always tend to aggravate the body constituents; even it is true with Ati Mamsa and Meda Sevana. Especially Mamsa of Anoopa origin will have more of Kaphaja qualities due to Guṇa Karma Sadharmya.

Non-vegetarian foods especially mutton, beef, pork etc. will fall in this category. These are high fatty foods containing saturated variety of fat. Always saturated fat(Ex; Animal fat) tend to increase the lipids in the body, but Polyunsaturated Fatty Acids (PUFA, of plant origin) will not increase the lipids readily. Exact fat metabolism and storage will be explained elsewhere.

Gorasa, Dadhi Atisevana

Gorasa includes all the secondary products of Ksheera like Dadhi, Navaneeta, Ghṛuta etc, which are homogenous to Kapha and Meda Dhatu. When consumed excessively will produce Sthaulya. Here we can even include the different food articles prepared out of milk like different dairy products, sweets, cakes etc. in Biochemical language these food again fall in the category of high caloric value foods only.

Gaudika, Varuni Atisevana –

These are the different varieties of Sandhana Kalpa falling in the category of Madya only. Madya Sevana is Brmhaṇa

Karma. In the context of Madatyaya, Charaka explains that proper consumption of Madya abiding by the rules and regulations tend to produce Brmhaṇatwa in the body. Alcohol is a very high calorie diet without many useful nutrients to the body. So when consumed in excess will increase the body bulk.

In many cases of Obesity, those who consume excess alcohol by mere avoidance of itself will reduce the weight rather than any other measures.

Adhyashana, Atimatra Ahara, AtiSampoorṇa

Improper consumption of food in terms of quality, quantity and not abiding by the rules of intake of food will lead to the causation of Ama and ultimately results in Vyadhi. It is even true in the case of Sthaulya.

'Nibbling' between the meals contributes to the Obesity of many housewives, who are fond of cooking and of others, who work in kitchens. On the other hand, some studies revealed that those who are consuming heavy food only 3 times a day are more likely to be overweight than those who ate frequently light food 5 to 6 times.

Another behavioral difference that has been reported between Obese and normal people is that the Obese eats faster and spend less time chewing, so they tend to consume more food.

Obese respond to external cues to eat rather than internal hunger signals. They eat when it is mealtime or when they are surrounded by tasty food instead of when they are hungry.

Business executives who frequently attend lunches outside have chances of being obese. Housewives who do not want left foods to be thrown out, may consume forcibly and put on weight. Some eat more food when they are unhappy as a compensatory mechanism.

Avyayama, Shayyasana Sukha, Chesta Dvesha

A person, who will not indulge in physical exercises, lives luxuriously with sedentary life style will always tend to accumulate Kapha Dosha and Meda Dhatu in the body exhibiting Sthulata in the long course of time. Imbalance in the energy expenditure by sedentary way of life always has the higher risk of Obesity and its related diseases.

Though Obesity can occur at any age, this is more common during middle age when physical activity decreases without corresponding decrease in food consumption.

Physical activity has an important role in the development of Obesity. Affluence is commonly associated with reduced energy expenditure. It is well recognized that physical activity is less in the Obese than in the lean, but this may result from Obesity.

To a large extent, the nature of the occupation is influencing over the physical activity and lifestyle of the individual. Here are some of such examples by which one can classify the occupations as sedentary, Moderate and Heavy.

Table No 2: Classification of Activities based on Occupations

Sex	Sedentary	Moderate	Heavy
Male	Teacher Tailor Barber Priest Peon Landlord Shoemaker Postmaster Retired person Executives (Bank, Doctor etc)	Fisherman Basketmaker Potter Goldsmith Carpenter Mason Electrician Fitter Rikshawpuller Turner Industry Labour Coolie	Stonecutter Blacksmith Mineworker Woodcutter Agri.Labour
Female	Executives (Bank, Doctor etc) Teacher Tailor Housewives Nurses	Servant Maid Coolie Basketmaker Weaver	Stonecutter Agri.Labour

Divasvapna

All the texts of Ayurveda proclaim that day sleep is the major Santarpaṇa hetu making the body Abhiṣhyandi, may even be responsible for the manifestation of Sthaulya in long course of time.

Though Modern medical science distinguishes day sleep as a particular causative factor for Obesity, indirectly accepts it, because it is a sedentary way of lifestyle only. During sleep, the BMR will be minimal and the energy demand for the body is also minimal, and probably there are greater chances of accumulation of energy, especially in the form of adipose tissue in the body, in turn increasing the bulk.

Achinta, Harshanityatva

Not only physical factors but also the psychological elements play an important role in the manifestation of Sthaulya.

Achinta can be analyzed in two ways;

First, as the completely relaxed psychological mood of the person or tranquility of mind; which always help the nourishment of the body and lead to Sthaulya.

Secondly, it can be considered as a depressed state of the mind. At that time, the person doesn't want to think more and tend to "eat more" as a compensatory mechanism and become Obese. Depression state of the mind can be considered as the Tamoguṇa Pradhanyata by that person will be very ignorant and which always tend to aggravate the Kapha in the body.

Studies of Obese persons make it clearly evident that overeating is frequently associated with emotional trauma. The onset of Obesity in a number of subjects can be identified with some particular stress period.

Beeja Swabhava

By an overall look over these Nidana, it can be observed that primary emphasis has been paid to the dietetics as well as physical activities of the individual, next to the psychological aspects. At last but not least very interesting **genetic role** in the manifestation of the Sthaulya is also considered.

As in Modern medicine, Ayurveda also pays significant importance to the role of genetics in the manifestation of the disease. Either both maternal and paternal or anyone Beeja Svabhava may predispose Sthaulya. Maximum number of patients clinically reveals a positive family history of Sthaulya. Acharya Chakrapani and Gangadhara elaborate the Beeja

Swabhava as **"Mata Pitru Shonita Shukra Svabhava"**[8].

Genetic determinants can either play a major role in the pathogenesis of Obesity or enhance susceptibility to Obesity has been studied extensively and between 30 and 50 percent of the variability in the total body fat stores, is believed to be genetically determined.

Eighty percent of the offspring of two obese parents become Obese. Forty percent of the offspring of single Obese parents become Obese. The roles of heredity and childhood environment have been separated by studies of adopted children with obese biologic parents. The incidence of obesity was higher in children with obese biologic parents and normal adoptive parents than in children with normal weight biologic parents and normal weight adoptive parents, thus supporting a role of heredity in human Obesity. Several animal experimentation studies also contribute to the influence of genetics in the manifestation of Obesity.

Other Etiology for Obesity

- Endocrine Factors
- Trauma
- Metabolic
- Drugs
- Iatrogenic Factors

Endocrine Factors

An Endocrine influence on body fat is seen both in normal physiological situations and in pathological states. Obesity in women commonly begins at puberty, during pregnancy or at menopause suggesting an endocrine factor. Obesity frequently but not invariably accompanies Hypothyroidism, Hypopituitarism and Cushing's syndrome. However overwhelming obese patients show no clinical evidence of endocrine factor.

Plasma insulin and cortisol are commonly raised and Growth hormone reduced in obese subjects, but these changes probably result from rather than cause, obesity since they disappear when weight is lost. Obesity is also a feature of Prader-Willi syndrome which is an uncommon condition characterized by severe congenital hypotonia, feeding difficulties and poor weight gain up to the age of two years followed by mild mental retardation, short stature, hypogonadism, a voracious appetite and the development of obesity during childhood.

Hypothyroidism usually lowers the energy requirements (by lowering both BMR and physical activity) more than any concomitant decrease in appetite. Hypogonadism also is very prone to be associated with extra fat deposits, particularly in the breasts, abdomen, hips and thighs and it seems possible that the Obesity associated with mild degrees of Hypopituitarism may well be account for by the resulting combination of Hypothyroidism and Gonadism.

Increased activity of the adrenal cortex frequently results in obesity. In Cushing's syndrome, where the main excess secretion consists of cortisol, the fat is deposited on the face, neck and trunk, the limbs being relatively squared though these look thinner than they really are because of the diminution in musculature.

Trauma

Obesity may follow damage to the hypothalamus, which regulates appetite or satiety and its connections after a head injury or other localized lesion. But this is clinically very uncommon. Some people become obese after Encephalitis there may have been damaged to the Hypothalamic centres. Experimental obesity has been produced in animals by both physiological and psychic trauma. Again, identification of an exact human counterpart type of obesity is elusive.

Metabolism

It is also possible that in some obese patients there may exist an abnormality of fat metabolism whereby the rate of fatty acid synthesis exceeds the role of its utilization until an abnormally proportion of the body is composed of adipose tissue. The fat in the adipose tissue is normally in a rapid state of turnover. The outflow of calories from the blood stream, in the form of free fatty acids, is about three times that due to glucose.

There is probably a turnover of 1 - 2 x 10 kcal per day in normal adipose tissue, about this energy value of glucose being converted into fat, the same value of free acid being liberated into the plasma. It is clear that under conditions of overall calorie because this synthesis and release of free fatty acids must proceed at the same rate. If for any reason the rate of synthesis should exceed the rate of breakdown, energy utilization in the rest of the body remaining the same, there must be an increase in food intake if other tissues are not to be used for energy purposes.

Thus if in some way such metabolic changes were to be associated with stimulation of appetite, it could be a cause of obesity. Such stimulation probably exists as a genetic abnormality in mice, but if it exists as a functional defect rather than an adaptive mechanism in man, it is likely to be fairly rare.

Obesity is associated with both hyperplasia and hypertrophy of adipocytes. Adipose tissue is a metabolic organ with manifold activities. Many metabolic changes that occur in obesity are probably a consequence not a cause of obesity.

Drugs

An important and frequently overlooked factor in obesity is the role of drugs in its manifestation. Many drugs, most prominently certain commonly used psychotropic agents, increase appetite. Antidepressants, neuroleptics and minor tranquillizers can all induce weight gain through increased food consumption. Beta-adrenergic agents, including propranolol, can also increase appetite.

Table No 3: Drugs Associated with Increased Bodyweight

Phenothiazines	Chlorpropmaz, Promazine, Mepazine, Prochlorperazine, Haloperidol, Ioxapine
Antidepressants	Amitriptyline, Imipramine, Doxepin, Desipramine
Anti epileptics	Valproate, Carbamazepine
Steroids	Glucocorticoids, Megestrol acetate
Anti hypertensives	Terazocin

Iatrogenic Factors (Vaidyakruta)

Though it is a surprising and ignored factor, many times responsible for the manifestation of the diseases. Even it is true in case of Sthaulya Roga. Though we won't find this terminology in a straightforward fashion connected with Nidana of Sthaulya, but has its significance. Especially the term Pratikarma Bheṣhaja is used (i.e. improper conduction of therapeutic procedures) particularly like Panchakarma. For example, SnehapanahAtiyoga may lead to Sthaulya. When a physician

advises Shamananga Sneha without eliciting Prakṛti, Kala, Vaya and Matra etc., may lead to Meda Vrddhi in the body and may predispose Sthaulya.

Similarly when a surgeon injuries the hypothalamic centres for appetite and satiety in the course of a cranial surgery may predispose the person to obesity.

Erratic advice of appetizers, psychotropic drugs by a physician may lead to obesity.

REFERENCES

1. *AgniveshaKṛita, Caraka, Dhradabalaprathisamskṛita, Carakasaṁhita with Cakrapanidatta, Ayurveda dipika vyakya (Sanskrit) Published by Chaukambha Sanskrit Samsthana Page No 117.*
2. *Suṣhrtacharya kṛita, SushrutasaṁHita with Dalhanacharya kṛata Nibanda Sangraha Vyakya (Sanskṛta) published by Chaukambha Orientalia, Varanasi, Page No 73 and 545.*
3. *Vaghbatacharya krita Ashtanga Hrdaya with Aruṇadatta Sarvanga Sundara Vyakhya and Hemadri krata Ayurvedarasayana Vyakhya (Sanskrit) published Krishnadas Academy Varanasi Page No 226.*
4. *Madhavakarakrata Madhava Nidana with Vijayarakshita and Shrikantadatta krata Madhukosha Vyakhya Published by Panduranaga Jawaji Bombay Page No 226.*
5. *Cakrapānidattakṛta Cakradatta (Cikitsā sāra sangraha Sanskrit) with Śivadasa Sena kṛta tatwa chandrika vyakhya Published by Chaukambha Orientalia, Varanasi, Page No 429.*
6. *Vangasena Samhita, author Shankarlal Harishanker Published by Khemraj Srikrishnadas Bombay (Hindi) Page No 498.*
7. *H.B.of Nutrition and Dietetics – Dr. Vijaya D. Joshi, Vora Medical Publications, Bombay 31.*
8. *Researches in Ayurveda by Dr.M.S. Beghel Mridu Ayurveda Publications and Sales, Jamnagar.*
9. *Cáceres-Medina, Juliana, et al. "Endogenous levels of adenosine in obese patients before and after hypocaloric diet treatment." International Journal of Medicine and Pharmaceutical Sciences 5.3: 1-8.*
10. *Nikam, M. G., et al. "Effect of Dietary Supplementation of Non Starch Polysaccharide Hydrolyzing Enzymes on Broilers." International Journal of Agricultural Science and Research (IJASR): 2250-0057.*
11. *Rana, Supriya, Indira R Samal, and Ravjit Kaur Sabharwal. "Diet, Obesity and Prostate Cancer, in a Population of Northern India." International Journal of General Medicine and Pharmacy (IJGMP): 2319-3999.*
12. *Alhajri, Amenah, Rima Mashal, and Salma Tukan. "Studying the Effect of Dietary Advanced Glycation End Products on Type Ii Diabetes and Related Complications Risk." International Journal of Applied and Natural Sciences (IJANS) 7.4: 55-66.*